

REMARKS

Claims 1 to 26 are pending in this application. Reconsideration and reexamination of the application is respectfully requested in view of this amendment and the following remarks.

The Examiner, in paragraph 1 of the Office Action, reminded applicants of the proper language and format for an abstract of the disclosure. The Examiner indicates as follows.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The Form and legal phraseology often used in patent claims, such as "means" and "said" should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns", "The disclosure defined by this invention", "The disclosure describes", etc.

In response to the Examiner's indication, the Abstract of the Disclosure has been amended. In view of the amendments to the Abstract of the Disclosure, the Examiner's indication is believed to be no longer applicable to the present application.

The Examiner, in paragraph 3 of the Office Action, indicates that claims 1-8, 10, 11, 14-21, 23 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Une (US 6,594,369). The Examiner indicates as follows.

Regarding claims 1 and 14, in Une's discussion of what is well known in the prior art, shown in figure. 13, Une teaches an electret condenser microphone for receiving an acoustic wave to be converted to an acoustic signal indicative of said acoustic wave, comprising a casing member 5 having a center axis passing therethrough; Une teaches an inlet portion 21, and in figure 1B and 1D, Une teaches that a circular or mesh-shaped inlet portion may be employed; and in column 1, lines 22-25, teaches that the casing is cylindrical, thus reading on "said casing member including a cylindrical side portion integrally formed with said inlet portion of said casing member"; Une teaches that said side portion of said casing member 5 has a first section close to said inlet portion 21 of said casing member, and a second section 52 remote from said inlet portion 21 of said casing

member, said second section of said side portion of said casing member being radially inwardly bent toward said center axis of said casing member;

a printed circuit board 29 in the form of a circular shape and disposed in said casing member 5 to be held in contact with said second section 52 of said side portion of said casing member 5, said casing member and said printed circuit board 29 collectively forming a cylindrical casing space;

an electrode 6 accommodated in said casing space of said casing member 5;

a plurality of electrically connecting members 81, 82 intervening between said printed circuit board 29 and said electrode 6 to have said printed circuit board and said electrode plate electrically connected with each other; figure 13 illustrates that the electrical connecting member 81, 82 are disposed off-center with respect to the printed circuit board, thereby reading on "said electrically connecting member being partially disposed on and along the circumference of said printed circuit board", as broadly claimed;

and a diaphragm 4 located between said inlet portion 21 of said casing member 5 and said electrode plate 6 to be spaced apart via 61 along said center axis of said casing member from said electrode plate at a predetermined space distance.

In response to the Examiner's indication, claims 1 and 14 have been amended as set forth above. The amendments to claim 1 is supported by the description on page 7, lines 25 to 28 and on page 9, lines 9 to 10 in the specification, the amendments to claim 1 is supported by the description on page 7, lines 25 to 28, page 8, lines 34 to 36, and on page 9, lines 9 to 10 in the specification, and accordingly, are within the scope of the description in the specification attached with the application as originally filed. Accordingly, claims 2 and 15 have been amended as set forth above to exclude the limitations overlapping with those of the amended claims 1 and 14.

Claims 1 and 14 are patentably distinguishable over "*Une*" for the following reasons.

The following argument will be then made about the electret condenser microphone defined in the amended claim 1 on the basis of the comparison of the electret condenser microphone defined in claim 1 with the cited reference "*Une*".

The constituent features of the electret condenser microphone defined in the amended claim 1 are as follows:

(a1) a casing member having a center axis passing therethrough, said casing member including a circular inlet portion, and a cylindrical side portion integrally formed with said inlet portion of said casing member, said side portion of said casing

member having a first section close to said inlet portion of said casing member, and a second section remote from said inlet portion of said casing member, said second section of said side portion of said casing member being radially inwardly bent toward said center axis of said casing member;

(a2) a printed circuit board in the form of a circular shape and disposed in said casing member to be held in contact with said second section of said side portion of said casing member, said casing member and said printed circuit board collectively forming a cylindrical casing space;

(a3) an electrode plate accommodated in said casing space of said casing member;

(a4) an electrically insulating member in the form of an annular ring shape and accommodated in the casing space of the casing member to be held in coaxial alignment with the casing member;

(a5) an electrically connecting member intervening between said printed circuit board and said electrode plate to have said printed circuit board and said electrode plate electrically connected with each other, said electrically connecting member being partly retained by said electrically insulating member and disposed on and along the circumference of said printed circuit board; and

(a6) a diaphragm located between said inlet portion of said casing member and said electrode plate to be spaced apart along said center axis of said casing member from said electrode plate at a predetermined space distance.

From the elements (a4) and (a5), it will be understood that the electrically connecting members forming part of the electret condenser microphone defined in the amended claim 1 can reduce the stray capacitance between the casing member and the electrically connecting member and thus increasing the sensitivity to the acoustic wave while reliably having the printed circuit board and the electrode plate electrically connected with each other.

Especially, from the elements (a1), (a2), (a4), and (a5) forming part of electret condenser microphone defined in the amended claim 1, it will be understood that the electret condenser microphone defined in the amended claim 1 is suitable for mass-production.

The cited reference to “*Une*”, on the other hand, discloses an electret capacitor microphone comprising a surface conductive diaphragm, a fixed electrode provided opposite to the diaphragm at a regular interval, a solid state device for converting, into an electric signal, a voice given to the diaphragm with a change in an electrostatic capacity between the diaphragm and the fixed electrode, and a dielectric casing having a bottomed hollow portion for accommodating the diaphragm, the fixed electrode and the

solid state device. In addition, “*Une*” teaches an input lead 81 and an output lead 82 of the solid state device 8 mounted on the conductive paths 72 and 73 respectively, and are bonded with solders, brazes, conductive adhesives or the like.

The cited reference to “*Une*”, however, fails to disclose the previously mentioned elements (a4) and (a5), viz., (a4) “an electrically insulating member in the form of an annular ring shape and accommodated in the casing space of the casing member to be held in coaxial alignment with the casing member” and (a5) “an electrically connecting member intervening between said printed circuit board and said electrode plate to have said printed circuit board and said electrode plate electrically connected with each other, said electrically connecting member being partly retained by said electrically insulating member and disposed on and along the circumference of said printed circuit board”.

This leads to the fact that the electret condenser microphone defined in the amended claim 1 is completely different in construction from the disclosure of the cited reference to “*Une*”.

The electrically connecting members forming part of the electret condenser microphone defined in the amended claim 1 can obtain the advantages that the electrically connecting member is supported by the electrically insulating member in the form of an annular ring shape and accommodated in the casing space of the casing member and thus disposed on and along the circumference of said printed circuit board, thereby making it possible for the electrically connecting members forming part of the electret condenser microphone defined in the amended claim 1 to reduce the stray capacitance between the casing member and the electrically connecting member and thus increasing the sensitivity to the acoustic wave while reliably having the printed circuit board and the electrode plate electrically connected with each other even while the casing member is being oscillated or moved, resulting from the elements (a4) and (a5), and

Further, the electrically connecting members forming part of the electret condenser microphone defined in the amended claim 1 can obtain another advantage that the printed circuit board, the electrically insulating member, and the electrically connecting members are in the form of a circular shape and thus can be mass-produced with ease, resulting from the elements (a1), (a2), (a4), and (a5).

Failure to teach or suggest the above fact makes it impossible for the electret capacitor microphone taught by “*Une*” to expect such advantage, viz., “having the printed circuit board and the electrode plate are electrically connected with each other with reliability while reducing the stray capacitance between the casing member and the

electrically connecting member and thus increasing the sensitivity to the acoustic wave” and “being suitable for mass-production” attained by the electret condenser microphone defined in claim 1.

It will therefore be appreciated from the foregoing description that claim 1 is patentably distinguishable over “*Une*”. The claims 2 to 13 dependent upon the amended claim 1 are submitted to be patentably distinguishable over the prior art of record for the same reasons as described in the above.

The electret condenser microphone defined in the amended claim 14 is substantially similar in construction to the electret condenser microphone defined in the amended claim 1 except for the fact that the electret condenser microphone defined in the amended claim 14 comprises a plurality of electrically connecting members each intervening between said printed circuit board and said electrode plate to have said printed circuit board and said electrode plate electrically connected with each other, said electrically connecting members being partly retained by in said electrically insulating member and disposed on and along the circumference of said printed circuit board to be equidistantly spaced apart from one another.

Accordingly, it will therefore be appreciated from the foregoing description that claim 14 is patentably distinguishable over “*Une*” for the reason as described in the above. The claims 15 to 26 dependent upon the amended claim 14 are submitted to be patentably distinguishable over the prior arts of record for the same reasons as described in the above.

The Examiner, in paragraph 2 of the Office Action, indicates that claims 1-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over 1-12 of U.S. Patent No. 6,512,833. The Examiner indicates as follows.

Although the conflicting claims are not identical, they are not patentably distinct from each other because obvious wording variations. For example, claim 1 of the immediate application recites the limitation of “a diaphragm”, while claim 4 of U.S. Patent No. 6,512,833 recites the limitation of “a diaphragm”.

The Examiner’s indication is respectfully traversed for the following reasons.

The inventor of the present invention has seriously conceived the problem that the side portion of the casing member and the electrically connecting member collectively constitute an unwanted capacitor unit to generate a stray capacitance corresponding to the area of the surface portion, opposing the outer surface of the electrically connecting member, of the inner surface of the side portion of the casing

member, in order to attain the object of the present invention, i.e., to reduce the stray capacitance between the casing member and the electrically connecting member and thus increase the sensitivity to the acoustic wave. The inventor of the present invention ascertained the aforementioned limitation, viz., "said electrically connecting member being partly disposed on and along the circumference of said printed circuit board" after conducting various research and repeated tests.

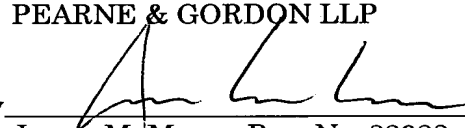
For the above reasons it is believed that the application and claims as amended is now in proper condition for allowance, and reconsideration and early allowance of the amended application is respectfully solicited.

If any fees are required by this communication, please charge such fees to our Deposit Account No. 160820, Order No. 34158.

Respectfully submitted,

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